



**U.S. Department of Energy
Energy Efficiency and
Renewable Energy**

Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable

INDUSTRIAL TECHNOLOGIES PROGRAM

Improve Compressed Air System Performance with AIRMaster+

**Use AIRMaster+ software to
identify compressed air system
improvement opportunities.**

AIRMaster+ Makes It Easy

AIRMaster+ provides a systematic approach for assessing the supply-side performance of compressed air systems. Using plant-specific data, the software effectively evaluates supply-side operational costs for various equipment configurations and system profiles. It provides useful estimates of the potential savings to be gained from selected energy efficiency measures and calculates the associated simple payback periods.

AIRMaster+ evaluates the energy savings potential of any or all of the following eight energy efficiency actions:

- Reduce air leaks
- Improve end-use efficiency
- Reduce system air pressure
- Use unloading controls
- Adjust cascading set points
- Use automatic sequencer
- Reduce run time
- Add primary receiver volume

AIRMaster+ includes a database of generic or industry-standard compressors and creates an inventory specific to your actual, in-plant air compressors. Based on user-provided data, the software simulates existing and modified compressed air system operations. It can model part-load system operations for an unlimited number of rotary screw, reciprocating, and centrifugal air compressors operating simultaneously with independent control strategies and schedules.

Powerful software features facilitate development of 24-hour metered airflow or power data load profiles for each compressor, calculation of life-cycle costs, input of seasonal electric energy and demand charges, and tracking of maintenance histories for systems and components.

Using AirMaster+

AirMaster+ models the supply side of a compressed air system. Effective use of the software requires a thorough understanding of compressed air system dynamics, including interactions between the demand and supply sides.



**The energy efficiency
of a typical compressed
air system can be
improved 20% or more.**

"We've made AIRMaster+ a part of our Kaeser Factory Certified Training program for distributors and branches. We feel that it is one of the best tools for modeling systems and showing end users how to improve the efficiency of their compressed air system."

Wayne Perry,
Technical Director,
Kaeser Compressors Inc.
(Qualified AIRMaster+ Specialist)

**To download the AIRMaster+ Tool and
other free software tools or participate
in an on-line tool forum, visit us at:**

**[www.eere.energy.gov/industry/
bestpractices/software.html](http://www.eere.energy.gov/industry/bestpractices/software.html)**

**To learn more, contact the EERE Information Center (1-877-337-3463) or visit
the BestPractices web site at www.eere.energy.gov/industry/bestpractices**

Support and Training

Training is recommended for everyone interested in using AirMaster+. An overview presentation (1 to 1½ hours) and short course (4½ hours) on the software are available through a network of Qualified AirMaster+ Specialists. These Specialists have passed a rigorous qualifying exam conducted under the auspices of DOE and the Compressed Air Challenge (CAC). Find a Specialist to assist your facility by looking under Training on the DOE website at www.oit.doe.gov/bestpractices.

The Compressed Air Challenge offers two training sessions on system dynamics: a 1-day course on Fundamentals of Compressed Air Systems and a 2-day course on Advanced Management of Compressed Air Systems. Individuals seeking to become a DOE/CAC Qualified AirMaster+ Specialist must complete the CAC Advanced Management training, possess previous experience in monitoring compressed air systems, and successfully complete a 2½-day AirMaster+ Training session including a written exam.

"The Efficiency Measures section in AIRMaster+ is easy to use and very flexible. This feature allows us to give compressed air users a variety of ways to improve the efficiency of their systems. Many times we can show companies low-cost measures that provide quick paybacks."

Joseph D'Ambrosio,
President, Air Power of New
England (Qualified AIRMaster+
Specialist and Allied Partner)

"In 2002, we used AIRMaster+ to audit industrial compressed air systems at more than two dozen plants. System control and efficiency improvements at a plastic-bag production plant allowed them to take 500 horsepower of compressor capacity off-line and still meet system requirements. The plant was able to reduce its annual energy costs by over \$250,000 per year with a \$25,000 investment."

Keith LeFebvre, KL Research

"We used AIRMaster+ to analyze the compressed air system in a facility that manufactures rubber gaskets. The existing compressors consume more than 3 million kWh per year, representing more than 20% of the plant's energy consumption. Using AIRMaster+, we identified over 1 million kWh in potential energy savings with a payback period of approximately 2 years."

Satyen S. Moray,
Project Engineer,
Energy & Resource Solutions, Inc.
(Qualified AIRMaster+
Specialist and Allied Partner)

Industry (No. of Assessments)	Average Energy Savings (kWh/year)	Average \$ Savings (Annual)
Aluminum (1)	2,891,500	\$107,000
Chemicals (1)	3,175,000	\$127,000
Forest Products (6)	3,166,400	\$129,000
Mining (4)	4,673,900	\$235,600
Petroleum (4)	1,839,900	\$118,600

A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

For more information contact:
EERE Information Center
1-877-EERE-INF (1-877-337-3463)
www.eere.energy.gov



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